

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

(Claims 1, 2, 6, 8, 14, 17-20, 22, 26-29, 31, 33, and 37-39 have been amended)

1.(Currently Amended) An antenna directivity enhancer to enhance the directivity of an antenna comprising:

a 3-dimensional structure in a predefined 3-dimensional shape when operating to enhance the directivity of the antenna, the 3-dimensional shape including four surfaces, two side surfaces connected at an edge, a top surface above the two side surfaces, and a bottom surface below the two side surfaces;

wherein

the 3-dimensional structure ~~can~~ is adapted to be flexibly collapsed into 2-dimensional flat surfaces, ~~with at least two of the surfaces not required to have any space in between them when the structure is collapsed;~~

when collapsed, the 2-dimensional flat surfaces are adapted to be in contact;

the collapsed enhancer is adapted to return to the 3-dimensional shape and vice

versa; and

the direction where the directivity is enhanced ~~can~~ is adapted to be changed as desired.

2. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein

~~the enhancer includes four surfaces;~~

at least the two side surfaces are reflecting surfaces; and

when the enhancer is in its predefined 3-dimensional shape, the two reflecting surfaces are substantially orthogonal to each other.

~~one other surface can be above the two reflecting surfaces, and~~

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~~the other surface can be below the two reflecting surfaces.~~

3. (Original) An antenna directivity enhancer as recited in Claim 2 wherein both the surface above and the surface below are also reflecting surfaces.

4. (Original) An antenna directivity enhancer as recited in Claim 2 wherein when the enhancer is in its predefined 3-dimensional shape, the surface above is upwardly tilted.

5. (Original) An antenna directivity enhancer as recited in Claim 2 wherein when the enhancer is in its predefined 3-dimensional shape, the surface below is downward tilted.

6. (Currently Amended) An antenna directivity enhancer to enhance the directivity of an antenna comprising as recited in Claim 2 wherein:

a 3-dimensional structure in a predefined 3-dimensional shape when operating to enhance the directivity of the antenna;

wherein

the 3-dimensional structure is adapted to be flexibly collapsed into 2-dimensional flat surfaces;

when collapsed, the 2-dimensional flat surfaces is adapted to be in contact;
the direction where the directivity is enhanced is adapted to be changed as
desired;

the enhancer includes four surfaces;

at least two surfaces are reflecting surfaces;

when the enhancer is in its predefined 3-dimensional shape,

the two reflecting surfaces are substantially orthogonal to each other,

one other surface is above the two reflecting surfaces,

another surface is below the two reflecting surfaces, with the surface
above and below each having a hole,

~~each of the surface above and the surface below has a hole; and~~

~~when the enhancer is in its predefined 3-dimensional shape to enhance the directivity of the antenna;~~

the shortest distance between the center of any of the two holes and the line the two reflecting surfaces intersect is more than about 0.25 times of the wavelength of the radiation of the antenna;

the enhancer includes a tube that is positioned by the two holes; and
the antenna is located inside the tube.

7.(Original) An antenna directivity enhancer as recited in Claim 6 further includes a grommet to improve the attachment between the enhancer and the antenna.

8. (Currently Amended) An antenna directivity enhancer to enhance the directivity of an antenna comprising as recited in Claim 2 wherein:

a 3-dimensional structure in a predefined 3-dimensional shape when operating to enhance the directivity of the antenna;

wherein

the 3-dimensional structure is adapted to be flexibly collapsed into 2-dimensional flat surfaces;

when collapsed, the 2-dimensional flat surfaces are adapted to be in contact;

the direction where the directivity is enhanced is adapted to be changed as

desired;

the enhancer includes four surfaces;

at least two surfaces are reflecting surfaces; and

when the enhancer is in its predefined 3-dimensional shape,

the two reflecting surfaces are substantially orthogonal to each other,

one other surface is above the two reflecting surfaces,

another surface is below the two reflecting surfaces, and

~~when the enhancer is in its predefined 3-dimensional shape,~~ the flatness of the surface above and the surface below are enhanced by clips.

9. (Original) An antenna directivity enhancer as recited in Claim 2 wherein when the enhancer is collapsed, the 2-dimensional flat surfaces are connected.

10. (Original) An antenna directivity enhancer as recited in Claim 2 wherein when the enhancer is collapsed, the two reflecting surfaces are substantially in contact.

11. (Original) An antenna directivity enhancer as recited in Claim 2 wherein the enhancer is less than 4 ounces in weight.

12. (Original) An antenna directivity enhancer as recited in Claim 2 wherein all of the major dimensions of the enhancer is less than 30 centimeters.

13. (Original) An antenna directivity enhancer as recited in Claim 1 wherein when the enhancer is in its predefined 3-dimensional shape, the enhancer only has one flat reflecting surface.

14. (Currently Amended) An antenna directivity enhancer to enhance the directivity of an antenna comprising: as recited in Claim 1 wherein when the enhancer is in its predefined 3-dimensional shape, it has

a 3-dimensional structure in a predefined 3-dimensional shape when operating to enhance the directivity of the antenna, the 3-dimensional shape including one curved reflecting surface, a top surface above the curved reflecting surface, and a bottom surface below the curved reflecting surface;

wherein

the 3-dimensional structure is adapted to be flexibly collapsed into 2-dimensional flat surfaces;

the collapsed enhancer is adapted to return to the 3-dimensional shape and vice versa; and the direction where the directivity is enhanced, is adapted to be changed as desired.

15. (Original) An antenna directivity enhancer as recited in Claim 14 wherein the curved reflecting surface is parabolic in shape.

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16. (Original) An antenna directivity enhancer as recited in Claim 1 wherein when collapsed, the 2-dimensional flat surfaces are not connected together.

17. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein the enhancer is inflatable and ~~can be~~ is inflated to form its predefined 3-dimensional shape.

18. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein the position of the enhancer relative to the antenna ~~can be~~ is fixed.

19. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein the antenna is for establishing wireless connection to a different antenna; and the position of the enhancer relative to the antenna ~~can be~~ is adapted to be automatically calibrated to maximize the signal strength of the connection.

20. (Currently Amended) An antenna directivity enhancer as recited in Claim 19 wherein the calibration process takes into consideration that there ~~can be~~ is at least one position of the enhancer relative to the antenna where there is no connection.

21. (Original) An antenna directivity enhancer as recited in Claim 1 wherein the external 3-dimensional structure of the enhancer is different from the pre-defined 3-dimensional shape of the enhancer.

22. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein when the enhancer is in its predefined 3-dimensional shape to enhance the directivity of the antenna,
the enhancer includes a tube;
the antenna is located in the tube; and
the enhancer encloses the tube so that the tube is not visible when ~~tube cannot be seen~~
~~when the enhancer is viewed from the outside.~~

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23. (Original) An antenna directivity enhancer as recited in Claim 1 wherein the antenna is for a wireless router.

24. (Original) An antenna directivity enhancer as recited in Claim 1 wherein the antenna is for a wireless card.

25. (Original) An antenna directivity enhancer as recited in Claim 1 wherein the antenna is embedded inside a device.

26. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein:
the antenna is for establishing wireless connection to a different antenna; and
the different antenna also has an antenna directivity enhancer.

27. (Currently Amended) An antenna directivity enhancer as recited in Claim 1 wherein:
the antenna is for establishing wireless connection to a second antenna; and
the connection is established through a third antenna.

28. (Currently Amended) An antenna directivity enhancer to enhance the directivity of an antenna comprising:

a 3-dimensional structure in a predefined 3-dimensional shape when operating to enhance the directivity of the antenna, the 3-dimensional shape including four surfaces, two side surfaces connected at an edge, a top surface above the two side surfaces, and a bottom surface below the two side surfaces;

wherein

the 3-dimensional structure ~~can~~ is adapted to be flexibly collapsed into 2-dimensional flat surfaces, with the angle subtended between two of the surfaces reduced at least by a factor of four when the structure is collapsed;

the collapsed enhancer is adapted to return to the 3-dimensional shape and vice versa; and
the direction where the directivity is enhanced ~~can~~ is adapted to be changed as desired.

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29. (Currently Amended) A collapsible antenna enhancing device, comprising:
an extended configuration forming a predetermined three-dimensional arrangement of a plurality of at least four sides, with at least one of the sides providing a reflective surface for electromagnetic radiation; and

a compressed configuration suitable for storage or shipment in which the plurality of sides collapse down to a substantially two-dimensional arrangement,

wherein the at least four sides include two sides connected at an edge, a top side above the two sides, and a bottom side below the two sides, and

wherein said collapsible antenna enhancing device ~~can~~ is adapted to return to said extended configuration from said compressed configuration and vice versa.

30. (Original) A collapsible antenna enhancing device as recited in Claim 29 wherein said collapsible antenna enhancing device is less than 6 ounces in weight.

31. (Currently Amended) A collapsible antenna enhancing device as recited in Claim 29 wherein at least one of the side ~~contains~~ has an advertisement.

32. (Original) A collapsible antenna enhancing device as recited in Claim 29 further comprising at least one opening in at least one of the sides to receive an antenna to be enhanced.

33. (Currently Amended) A collapsible antenna enhancing device as recited in Claim 29 wherein said collapsible antenna enhancing device has a focal point, and the opening ~~being~~ is substantially positioned at the focal point.

34. (Original) A collapsible antenna enhancing device as recited in Claim 29 further comprising at least one opening in at least one of the sides to receive a port connector.

35. (Original) A collapsible antenna enhancing device as recited in Claim 34 further comprising means to hold said port connector.

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36. (Original) A collapsible antenna enhancing device as recited in Claim 34 further comprising the port connector.

37. (Currently Amended) An antenna enhancing device, comprising:

a primary configuration having a predetermined three-dimensional arrangement of a plurality of at least four sides, at least one of the sides providing a reflective surface for electromagnetic radiation to enhance the performance of ~~the~~ an antenna; and

at least one additional side that lacks a reflecting surface and that provides an external surface for said primary configuration;

wherein

the at least four sides include two sides connected at an edge, a top side above the two sides, and a bottom side below the two sides;

the at least one additional side is substantially transparent to said electromagnetic radiation; and

the at least one additional side is not for enhancing the performance of the antenna.

38. (Currently Amended) An antenna enhancing device as recited in Claim 37 wherein said primary configuration has an opening ~~of said antenna enhancing device~~, and wherein said at least one additional side covers the opening of said antenna enhancing device.

39. (Currently Amended) An antenna enhancing device as recited in Claim 37 wherein said at least one additional side produces at least a part of an external configuration for said antenna enhancing device, and wherein the external configuration differs from said primary configuration.